Economic insecurity and fertility intentions: the case of Italy

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Abstract

We aim to provide an explanation for the combination of the relatively low female participation rates and lowest-low fertility levels in Italy. Starting from the assumption that childbearing decisions also depend on uncertainty about future employment, income, and wealth, we empirically assess how fertility intentions are affected by: 1) the deprivation of a quality job, which may severely compromise the employability of workers and is likely to provoke feelings of insecurity about future employment; 2) conditions of economic disadvantage in terms of household income and wealth, which may imply insufficient means to deal with potential adverse future events, thereby generating in the household feelings of anxiety and economic insecurity. We show that the instability of women's work status (i.e. the holding of occasional and precarious employment positions) significantly discourages the decision to have a first child. Low levels of household wealth significantly and positively influence the decision to postpone, or even decide against, having a first child. The chances of further childbirth are significantly and negatively influenced by household income insecurity.

JEL Codes: C25, J13

Keywords: economic insecurity, income, wealth, fertility, childbearing, , employment instability, precarious employment, Italy.

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1. Introduction

It is a widely held view that the longer a woman delays childbearing, the lower her completed fertility (Billari et al. 2002; Bumpass and Mburugu 1977; Bumpass et al. 1978; Marini and Hodsdon 1981).

Empirical studies have highlighted the fact that there was a significant and positive correlation between female participation in the labour force and the postponement of childbearing across OECD countries in the 70s, which in turn led to a fall in fertility rates (Ahn and Mira 2002; Adsera 2005). This trend has been attributed to the improvement in women's levels of education and employment, to changes in patterns of family formation (D'Addio and D'Ercole 2005) and to a major change in the values shared by younger women about their role within the family and the labour market (McDonald 2000; Hakim 2003; Kertzer et al. 2008).

The cross-country association between female participation and fertility became positive in the last decade (Ahn and Mira 2002;Adsera 2005; Del Boca and Locatelli 2006; Del Boca et al. 2007). Italy is experiencing the same trend, although it is still lagging behind compared to the European average. In the last two decades the female employment rate rose from 35.4% in 1994 to 47.2% in 2008 (significantly lower, however, than the average level of 59.1% in the EU27 in the same year). At the beginning of the 1990s Italy attained lowest-low fertility levels, i.e. a total fertility rate of below 1.3 children per woman, reaching 1.4 in 2008 (against the 1.6 average level of the EU27). Previous empirical literature on the Italian fertility puzzle has focused on the role of social and cultural factors in childbearing decisions (Micheli 2000; Kertzer et al. 2008; Fent et al. 2011), and on institutional and policy differences in comparison with Nordic countries – where more generous protection systems have been implemented to reconcile motherhood with work, and childcare services and part-time jobs have become increasingly available (Engelhardt and Prskawetz 2004; Del Boca and Sauer 2009). In this paper we argue that, in addition to these factors, and to women's decisions about investments in human capital and participation in the labour market, childbearing crucially depends on the economic conditions of the household. We thus add to the previous literature by attempting to test the role that economic insecurity – i.e. the uncertainty about future employment, income, and wealth – plays in women's fertility intentions.

To reach this goal, we build three measures of "deprivation" which, in our view, may generate feelings of anxiety and insecurity about the future in Italian couples possibly facing childbearing decisions. The indicators we use as the main independent variables within the empirical analysis measure aim to measure. 1) The deprivation of a quality job, as indicated by the fact of being precariously employed. According to the labour economics and sociology literature (see for example Guadalupe 2003; Menendez et al. 2006; Brandolini et al. 2007; Kim et al. 2008;

Barbieri2009; Scherer 2009; Amudeo-Dorantes et al. 2010) this condition seriously compromises the future employability of workers and is likely to provoke feelings of insecurity about future employment. 2) Conditions of economic disadvantage in terms of not having acceptable levels of household income and wealth, which may imply insufficient means to deal with potential adverse future events, thereby generating feelings of anxiety and economic insecurity in the household. The empirical analysis is based on a pooled cross section of Italian households sampled between 2002 and 2008 by the Bank of Italy in the Survey on Household Income and Wealth (SHIW). The sample is representative of the Italian population.

This study contributes to the literature in two substantive ways. To our knowledge, this is the first empirical assessment of the role that different aspects of economic disadvantage in a household – with regard to the lack of a quality job and of acceptable levels of household income and wealth - may play on couples' fertility intentions in Europe[5]. We argue that the transmission mechanism that leads economically disadvantaged couples to postpone or decide not to have a first child is related to the feeling of anxiety about the future that may be induced by deprivation. The strong focus on the role of employment instability, which in turn may be considered as a major cause of uncertainty and anxiety about future employment and income, is another element of novelty in our work. With a few exceptions (see for example Del Bono et al. 2011, and Modena and Sabatini 2011), the stability of women's work status has so far been neglected in the literature. Job and employment instability or, more generally, workers' "precariousness"[6] are commonly considered more as an obvious and somewhat desirable side effect of flexibility rather than as a potentially crucial determinant of workers' well-being. This view can hardly be generalized to Italy, where precarious workers are characterized by low income levels, inadequate social protection and discontinuous careers (Barbieri and Scherer 2003; Sabatini 2008). In this paper we test the hypothesis that, for women, holding a precarious position (i.e. unstable, low paid, and with few guarantees) is a deterrent to planning motherhood rather than being a persuasive factor that encourages childbearing through a decrease in the opportunity cost of not working– as suggested by early theoretical studies (see for example Willis 1973 and Becker 1981). Second, we also differentiate from previous studies along two further lines. We focus on childbearing *intentions*, instead of accounting solely for actual fertility, in order to better evaluate the determinants of the *decision* to have (more) children. In addition, starting from the assumption that childbearing decisions are in most cases taken at the

[5]Insightful and promising empirical studies on the topic have been conducted in Canada (Tang 2011) and Japan (Ogawa 2003).

[6] In its "Classification of Status in Employment", the International Labour Organisation (ILO) defines "precarious" workers as either: (a) workers whose contract of employment leads to the classification of the incumbent as belonging to the groups of "casual workers" ; (b) "short-term workers" or "seasonal workers"; or (c) workers whose contract of employment will allow the employing enterprise or person to terminate the contract at short notice.

couple level, we assess the role of a number of socio-economic traits of *both* components of Italian couples, instead of focusing solely on women.

The empirical results suggest an explanation of the "Italian fertility puzzle" – i.e. the coexistence of low female participation rates with lowest-low fertility levels in Italy – based on the effect in women of a deprivation of a quality job and of a lack of decent levels of household income and wealth, both of which are likely to generate feelings of economic insecurity in fertile-age couples. The instability of women's work status significantly discourages childbearing. Household wealth is found to be significantly and positively correlated with the decision to plan the birth of a first child. The chances of further childbirth are significantly reduced by low levels of household income. However, there are reasons to suspect these findings to be the fruit of spurious correlations. First, it is difficult to distinguish the effect of the three dimensions of economic insecurity we account for from that of other phenomena that potentially influence family planning. To deal with this problem, we include in the fertility intentions equation a set of individual and household control variables. Second, personal traits or individual exogenous shocks may be correlated with both childbearing decisions and the deprivation phenomena that possibly cause economic insecurity, thus creating a common bias. Third, in some cases one could suspect the existence of reverse causality: for example, as for labour precariousness, a woman who always wanted to have children may prefer to look for a very stable job. To deal with these problems, we argue in the next section that, in Italy, precarious employment is such a disadvantaged condition that it is difficult to see this as the result of a worker's deliberate choice, i.e. as an endogenous variable. In addition, we test the endogeneity of female labour precariousness and household income insecurity. The result of the tests do not support the endogeneity of economic insecurity dimensions.

The paper is organized as follows. Sections from 2 to 4 review the literature on economic insecurity and on the association between labour market outcomes and fertility. Section 5 describes our data and methodology. The main results and implications are presented in Section 6. Section 7 concludes.

2. Deprivation, employment insecurity and economic insecurity

"Economic insecurity arises from the exposure of individuals, communities and countries to adverse events, and from their inability to cope with and recover from the costly consequences of those events" (UNDESA 2008). According to Osberg (1998), economic insecurity is based on the anxiety produced by a lack of economic safety, i.e. the inability to obtain protection against potential economic losses. In the definition of the Commission on the Measurement of Economic Performance and Social Progress, economic insecurity is one of the dimensions that shape people's

well-being. It may be defined as: "Uncertainty about the material conditions that may prevail in the future. This insecurity may generate stress and anxiety in the people concerned, and make it harder for families to invest in education and housing" (Stiglitz, Sen and Fitoussi 2009, p.198).The insecurity perspective concerns the hazards faced by all citizens, and in this sense it differs from vulnerability to poverty, which focuses on just a segment of the population (Osberg 2010). Economic insecurity is shaped by many factors and this requires the use of a variety of approaches to its measurement. Some authors do not distinguish between different types of misfortunes and model the individual's feeling of insecurity as a function of her current wealth and of variations in wealth experienced in the past[7] (Bossert and D'Ambrosio 2009). The human-rights perspective, in comparison, identifies four key objective economic risks: unemployment, sickness, widowhood and old age[8]. Osberg and Sharpe (2011) follow this approach and construct an index of economic security for OECD countries based on these four sources of risk. Berloffa and Modena (2011a, 2011b) modify the Osberg and Sharpe indicator by including new measures of economic insecurity related to the risk of unemployment. Another index of economic insecurity is the Economic Security Index (ESI)[9]which is a measure specific to the U.S. and captures three major sources of risks: major income loss, large out-of-pocket medical spending, insufficiency of liquid financial wealth to deal with the first two risks.

Consistently with the human-rights perspective, some papers focus on specific sources of risk, and many of them look at job insecurity as a key factor in economic well-being. Stiglitz, Sen and Fitoussi (2009) distinguish between job instability and job insecurity: the first refers to the probability of breaking the contractual relationship between the worker and the employer, while the second refers to the possibility of remaining jobless for an extended period. Similarly, the flexicurity literature differentiates between flexibility (which is related to the type of contract, either permanent or temporary) and insecurity (with respect to employment and income): flexible employment is not necessarily in conflict with employment security (Madsen 2004; Wilthagen and Tros 2004). In countries where flexicurity policies have been implemented (low employment protection legislation combined with high unemployment benefits and active labour market policies) workers are likely to have employment opportunities throughout their lives and the aspiration to job security (having the same job one's whole working life) has been replaced with the

[7]The authors define wealth as a comprehensive variable that encompasses anything that may help an individual in coping with adverse occurrences.

[8]In Article 25, the United Nations' Universal Declaration of Human Rights of 1948 affirmed the "right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control."

[9] ESI is sponsored by the Rockefeller Foundation and has been available since 1985.

aspiration to employment security. In this context temporary workers may also feel secure. A recent strand of the literature has investigated the trade off between flexibility and security at the micro level. For example, Origo and Pagani (2009) point out that temporary workers do not necessarily feel insecure if they perceive that the risk of unemployment is low, and if, in case of unemployment, they can count on generous unemployment benefits and are likely to rapidly find a new job.

On the other hand, in countries characterized by a tight employment protection legislation for permanent workers, flexibilization "at the margin" and dual labour markets, there is a trade off between flexibility and security. This is the case of Mediterranean countries where job insecurity in many cases leads to employment insecurity and income insecurity. In Italy, the labour market reforms that occurred in the 1990s introduced flexibility only for marginal groups of workers, increasing the dualism between younger and older labour market entry cohorts. While the insiders are largely unaffected by labour market adjustments, young people are more likely to be employed with new flexible contracts (those used for the so-called *parasubordinati* and *interinali*[10]), characterized by low income levels, low social protection and discontinuous careers (Cipollone 2001). Precarious workers are not supported by the social protection system, because of the lack of wage subsidies for the low-paid and low unemployment benefits (Brandolini et al. 2007). This situation increases the probability of being poor for households with non-standard workers: the Bank of Italy (2009) shows that in 2006 the incidence of poverty for households with only atypical workers was about 47%[11]. Moreover, temporary contracts may represent a trap into instability and social exclusion, rather than a port of entry to stable positions. Due to the lack of training and the higher flexibility (both in terms of time and mobility) workers may find it very difficult to upgrade their skills and develop new contacts (Guadalupe 2003; Routledge and von Ambsberg 2003; Menendez et al. 2006; Kim et al. 2008; Amudeo-Dorantes et al. 2010). In addition, as argued by Barbieri and Scherer (2009), there might be a stigma associated with precarious or second rate jobs: "not having been selected for the primary labour market is interpreted as a negative signal by potential future employers" (p. 678).

After a certain period of instability, individuals in precarious jobs face the risk of a definitive exclusion from "standard" employment (Booth et al. 2002; Dolado et al. 2002; D'Addio and Rosholm 2005). Young people and women are more exposed to this risk (Brandolini et al. 2007; Barbieri and Scherer 2005). Barbieri (2009) underlines the fact that better educated workers and

[10]Most *parasubordinati* workers are similar to fixed-term employees except that they are paid less and receive lower social security contributions, and do not benefit from employment protection legislation (Brandolini et al 2007). *Interinali* are individuals who work through a temporary employment agency.

[11]Amudeo-Dorantes and Serrano-Padial (2010) find a similar result for Spain and suggest that fixed-term contracts are linked to a greater poverty exposure among women and older men relative to open-ended contracts.

those with higher occupational qualifications are less likely to be trapped in the secondary, sub-protected labour market. Given this evidence we argue that: 1)in Italy, job instability is likely to lead to employment instability and may thus generate feelings of anxiety and economic insecurity in workers; 2) on average, job instability should not be considered the result of a spontaneous choice – due for example to the workers' high risk propensity or to a preference for frequent changes in one's professional life. In Italy, precarious employment is such an unfavourable condition that very few women would deliberately choose it. It seems much more reasonable to consider precariousness as a situation of disadvantage to which workers have to adapt only if there are no alternatives.

Scherer (2009) investigates the social consequences of insecure jobs in western European countries: she finds temporary employees to be less likely to intend to have children in the future, to have relatively less spare time for their family and to experience a higher level of conflict with their partner. Furthermore, "general life satisfaction and well-being is clearly lower and the perceived household income situation is worse" (Scherer 2009, p. 542). When analysing fertility intentions, the type of labour contract (either permanent or temporary) may matter more when childcare welfare systems and parental benefits are designed to meet the needs of permanent workers, leaving women with precarious positions unprotected in the case of childbirth. This is definitely the case in Italy, as documented by Ferrera and Gualmini (2004) and Ferrera(2005).

To summarize, we argue that in Italy the type of contract may have an effect on fertility intentions per se, since temporary contracts are associated with low job quality, low income levels and low protection in case of pregnancy. We can call this phenomenon *deprivation effect*, with regard to the deprivation of a quality job. Moreover, given the low level of flexicurity, the stigma associated with low prestige jobs, and the risks of deterioration of workers' human and relational capital, precariousness may be a trap into instability entailing high levels of employment insecurity, income insecurity, which may have further negative implications for childbearing.

3. Labour market outcomes and fertility

Early theoretical studies on the determinants of fertility suggested that highly educated (potential) mothers tend to substitute the number of children with "child quality" (Becker and Lewis, 1973)[12]. According to this approach, since both "production" and bringing up children are time intensive, an

[12]The concept of "child quality" has been used to synthesize different factors of children's well-being, such as, for example, the time, effort, and money that parents devote to their care and development, their likelihood to not drop out of school, and the level of parents' subjective well-being – which in turn has relevant effects on children's psychological development. Willis (1973), for example, defines child quality as a function of the resources parents devote to each child.

increase in wage rates may induce a negative substitution effect reducing the demand for children (see for instance Mincer 1963, Becker 1965; Becker 1981; Willis 1973; Hotzet al.1997). In this framework, higher earnings discourage childbearing, by raising the opportunity cost of the time distracted from work to rear children. The income effect is unlikely to outweigh the negative substitution effect. For men, in contrast, the income effect tends to dominate since they spend less time on bringing up children, though the magnitude of these effects will vary across countries and birth parity (Willis 1973; Butz and Ward 1979). These theoretical predictions have found support in early empirical studies claiming that the increasing returns to schooling (especially for women) act as a factor in encouraging women's education relative to men's and driving the rise in women's labour market attachment (Schultz 2001). Schultz (1985), for example, identifies an exogenous appreciation in the value of women's time as a factor in improving women's wages relative to men's and contributing to the decline in fertility in Sweden. Rosenzweig (1982), by comparison, simulates a natural experiment to empirically show that Indian farm households exposed to the new technologies showed a reduction in fertility and an increase in the allocation of resources to schooling despite the associated rise in the demand for unskilled labour. The effect of women's labour market participation on fertility decisions may also depend on the availability of external childcare services (Ermisch 1989). With costly external childcare, women with high earnings may have more children, because they are more able to afford these expenses. Those with low income are less likely to be able to afford childcare services, but may still have higher fertility due to the lower opportunity cost of childbearing.

Over the last two decades, research has shifted towards investigating the timing of births rather than completed fertility (Heckman and Walker 1990). Empirical studies have shown that higher educated women with a better position in the labour market have births at older ages (Gustafsson and Wetzels 2000; Prioux 2004; Amudeo-Dorantes and Kimmel 2005; Modena and Sabatini 2011).A mother's age at the birth of the first child can be seen as the result of a trade-off between investment in human capital and career planning, on the one hand, and motherhood on the other hand (Gustafsson 2001). The effect of income on the timing and the number of births may follow different paths: Gustafsson (2005) suggests that, for young Swedes any additional year of education affects fertility through a delay in the formation of a stable couple, rather than by delaying parenthood once the couple is formed. Amuedo-Dorantes and Kimmel (2005) argue that college-educated mothers can profit from postponing motherhood, because they are in a position to negotiate a family-friendly work environment with flexible work schedules.

In the last two decades, the trade-off between career and the family seems to have eased off, causing a change in the relationship between labour market outcomes and fertility at the macro

level. As stated in the Introduction, the correlation between female participation in the workforce and fertility turned positive at the end of the 80s across OECD countries (Ahn and Mira 2002; Morgan 2003; Engelhardt and Prskawetz 2004; Billari and Kohler 2004). The shift has been explained as a result of the increasing availability of childcare services and part-time jobs, especially in the Nordic countries (Del Boca and Locatelli 2006; Del Boca et al. 2007). This evidence is confirmed by recent findings for a panel of Latin American countries (Aguero and Marks 2008). Northern Italian regions are experiencing the same trend, even if they still lag behind the European average. It has been documented that the emergence of the lowest-low fertility in Italy is related to a decrease in the progression to the second, third and subsequent children, while the probability of a first child remained almost stable (Dalla Zuanna 2004). Additionally, the personal ideal family size for around 60% of Italian women aged 20-34 years is two children; while one quarter have a preference for large families (Goldstein et al. 2003).

4. Data description

In order to analyse the effect of economic insecurity on family decisions we use the Bank of Italy Survey on Household Income and Wealth (SHIW), waves 2002, 2004, 2006 and 2008.The sample is composed of about 8,000 households per year and it is representative of the whole Italian population (Bank of Italy 2010).Couples in which the woman is under 46 years of age were asked if they were planning to have (more) children in the future. In the 2002 survey possible answers were "yes", "no", "don't know"[13]. In the subsequent waves the set of possible answers was widened to include: "yes", "not now", "we will think about it later", "no we do not want any more children", "we are happy with the number of children that we have", and "no but we would have liked to have (more) children". In 2008 a further choice was added: "No, I do not want children"[14].

Since we want to analyse the effects of both male and female characteristics, we focus on couples. On the other hand, the fertility intentions of women without a partner may be very difficult to achieve, and this may bias the empirical analysis. The sample consists of 5063 couples[15]. Our dependent variable is the intention to have (more) children. 17% of couples report that they want children, with a higher percentage in the richer north than in the rest of the country. The probability increases with female education and for childless women. Looking at the differences by the age of the female, the percentage of couples that are planning to have (more) children is lower for women

[13]In 2002 the question was asked to all women under 50 years of age.

[14] In 2008 the question on childbearing intentions was put to all women aged 18 to 45 years present at the interview, instead of couples.

[15] The number of households that answered the question on family planning was 1742 in 2006, 1744 in 2004, 1477 in 2002 respectively. In 2008, 887 women were asked this question.

aged 39 or more (see Table 1). A high proportion of old age women answer "No, we don't want any (more) children", and about 14% of them choose the response "No, but we would have liked to have (more) children". This suggests that fertility intentions are likely to have already been achieved for old age women, and thus we consider only couples in which the female is 38 years old or younger. This narrows the sample to 2551 couples.

In 2004 and 2008, all the women that reported that they would have liked to have (more) children answered a question about the reasons for not having (further) children. In 2008 possible answers included: insufficient income, incompatibility with work, an unsuitable home, lack of regular help from relatives, no nursery schools nearby or schools that were too expensive, the need to care for other relatives, the absence of a partner to have children with, a lack of agreement with the partner about the number of children and biological/physiological reasons[16]. Biological factors and insufficient income are the most cited reasons (about 44% and 41% respectively in 2008; insufficient income is cited by 50% of couples in 2004), followed by incompatibility with work (about 38% in 2008 and 30% in 2004).

[Insert Table 1 about here]

[Insert Table 2 about here]

The main independent variable is the indicator of the deprivation of a quality job for women, as defined by the type of contract (a dummy that equals 1 in the case of precarious employment, i.e. for employees with a fixed-term contract and for "atypical" workers such as casual, short-term, seasonal workers, or workers whose contract of employment allows the employer to terminate the contract at short notice). About 7% of women aged 38 or less are employees with fixed-term contracts or atypical workers, with a remarkable increase over time: from 5% in 2002 to 11% in 2008. The share of precarious workers is higher between school teachers (all schools) and blue-collar workers (or similar): 35% and 19%, respectively, are employed with temporary contracts.

[Insert Table 3 about here]

A better understanding of the determinants of job precariousness may be useful in assessing the relevance of endogeneity issues within the empirical analysis (see section 6.1). To this purpose, we

[16]Multiple responses were allowed.

first run a multinomial logit for the occupational status of women[17]. Independent variables capture individual, family and regional characteristics. In particular, we include women's educational level, type of university degree, region of residence, education cohorts (i.e. the year in which individuals finished their educational career), characteristics of the family of origin, the regional female unemployment rate, and the regional rate of precariousness[18]. Education cohorts allow us to compare individuals at similar "labour-market cycle" stage: given the reforms of the Italian labour market, labour market institutions and employment conditions significantly vary depending on the year in which individuals entered the labour market (Berloffa, Modena and Villa 2011). As regards the family background, we consider the education of the female's mother (as a proxy for "cultural channels" possibly influencing women's aspirations to have children), and the occupation of the female's father (as a proxy for the "social channel")[19]. Table 4 presents the results of the multinomial logit. Results are in line with what one would expect. Having an upper secondary school diploma or a university degree in medicine, engineering and economics decreases the probability of holding an insecure job position. Women living in regions with a high rate of precariousness are more likely to be temporary workers. Having left education in the first half of the '80s, or after 1995 increases the probability of being insecure. This result can be interpreted as a consequence of the labour market reforms carried out in the last two decades[20].

[Insert Table 4 about here]

As anticipated in previous sections, we also attempt to analyse the effects of economic insecurity that may be associated with low levels of household income and wealth. We argue that low levels of household income and wealth may imply insufficient means to deal with potential adverse future events, thereby generating a feeling of anxiety about the future in the household. In our view, it thus

[17]The dependent variable has five categories: "secure employed" (employees with open ended contracts), unemployed, "insecure employed" (employees with a fixed-term contract or atypical workers), self-employed, inactive.

[18]The share of precarious workers over the labour force in the region of residence. Precarious workers include: *parasubordinati, interinali* and irregular workers. Our calculation is based on data collected by the Italian National Social Security Institute (Inps, *Istituto Nazionale Previdenza Sociale*), the National bilateral body for temporary work (Ebitemp, *Ente Bilaterale per il Lavoro Temporaneo*), and the Italian National Institute of Statistics (Istat) respectively.

[19]Following Berloffa et al (2011), we assume that the cultural channel may work through the values attached to the different alternatives (e.g. intrinsic value of "secure" labour contracts), through a better knowledge of important information, or through the stimulus of non-cognitive skills. The social channel influences preferences, opportunities and choices through peer-effects and network-related advantages such as informal channels of job hunting.

[20]In 1984 the CFL (*contratto di formazione e lavoro*) was introduced, in 1995 a special pension scheme was introduced for those self-employed workers characterized by a close and continuous relation with a single company (*co.co.co*), in 1997 temporary agency work (*lavoro interinale*) was introduced for the first time in Italy within the so-called *Pacchetto Treu*, in 2003 the so-called *Legge Biagi* further enlarged the spectrum of atypical contracts (see Berloffa and Villa 2010 and Berton et al. 2009 for a comprehensive review of recent Italian labour market reforms).

seems reasonable to assume insecurity to be inversely related to current household economic conditions. We construct the index of wealth (income) insecurity taking into account the decile of the weighted distribution in which the household falls. The index of insecurity is one minus the decile (household income and wealth are divided by the OECD-modified scale).

5. Empirical methodology

We use the pooled cross section to analyse the effect of quality job deprivation on fertility intentions. First, we model childbearing decisions as a binary choice[21]. The dependent variable y may only take the values one and zero, which indicate whether the couple is planning to have (more) children in the future or not. The decision can be derived from an underlying latent variable model:

$$y^* = X\beta + e, \qquad y = 1\left[y^* > 0 \right] \tag{1}$$

where X is the set of independent variables aimed to explain fertility choices (described below). When e has a standard normal distribution we can derive the probit model:

$$prob(y = 1 \mid X) = F(X\beta) \tag{2}$$

where $F(\cdot)$ is the cumulative density function for a normal distribution with zero mean and unitary variance. Estimates from model (2) are not biased under the hypothesis of exogeneity of explanatory variables. We address this issues in section 6.1.

The main independent variables are the measures of quality job deprivation and household economic conditions, which have been discussed in the previous section. We control for women's age, male and female level of education, the geographical area of residence, marital status, and the number of children in the family. A list of the variables used and the main descriptive statistics are reported in Table 3. The average number of children is approximately one. Men and women in the sample are on average 37 and 33, respectively. 50% (43%) of males (females) reported low education (no formal education or primary school), 40% (44%) had completed high school, and

[21] The strategy of modelling childbearing intentions as a binary choice has the advantage of allowing us to use the whole pooled cross-section, including all of the four available waves of the Survey on Household Income and Wealth. A multinomial logit is performed in the next section.

10% (12%) had a degree or more. The large majority of men (71%) are employed with a stable job (open-ended contract), while this proportion is remarkably lower for women (40%). A large number

of women (39%) are out of the labour force (mainly housewives), with a sharp north-south divide: 24% in the north and 61% in the south and islands. The proportions of precarious workers (employees with fixed-term contracts or atypical workers) are 6% for males and 7% for females, 6% of sampled women are unemployed, and the share is three times higher in the south than in the north.

In order to better understand the effect of quality job deprivation on fertility intentions we also run a multinomial logit drawing on the surveys 2004, 2006 and 2008[22]. This reduces the sample to 2085 couples, but allows us to differentiate between different types of responses. .

6. Assessing the effect of quality job deprivation on fertility intentions

The effect of the deprivation of a quality job (associated with the type of contract, whether permanent or temporary) on childbearing intentions is presented in Table 5. We also report the effects of economic uncertainty related to household income and wealth (columns 2 and 3, respectively), and we consider the three dimensions all together in column 4.

As far as job deprivation is concerned, our results do not support theoretical predictions according to which the rise in the opportunity cost of childbearing related to the higher levels of female education, participation, and earnings may be responsible for the fall in fertility. In Italy, precariously employed woman, i.e. woman holding a fixed-term or an atypical contract, have a significantly lower probability of having (more) children (Table 5, column 1) in respect to permanently employed women. Precariousness reduces the estimated propensity to childbearing by about 15 (10) percentage points for women without (with) children (the difference is not statistically significant), from 0.25.

This result may be explained as a combination of the worry of not being able to afford the expenses related to childbearing with the woman's fear of loosing her job, which would cause a further worsening in the family's financial conditions. It is worth noting that, due to Italian legislation, temporary female workers with atypical contracts can rarely enjoy any form of sick leave or parental benefits. Moreover, the job displacement caused by pregnancy may destroy all the worker's specific human capital, thereby worsening the future employability of women (Del Bono et al., 2008). Bratti, Del Bono and Vuri (2005) show that in Italy about one out of four mothers who

[22]As previously noted, in 2002 possible answers were yes, no, do not know. Categories are described in section 6.

are employed during pregnancy leave the labour market after childbirth: the probability of coming back to work is higher for those working in the public sector – where open-ended employment

[Insert Table 5 here]

contracts are more frequent - and those living in a context with a more generous childcare system[23]. Our results provide support to the claims from the empirical studies mentioned in sections 2 and 3 (see for example Dolado et al. 2002; Barbieri and Scherer 2005; Brandolini et al. 2007; Barbieri 2009) which suggest that a relevant share of precariously employed new-mothers are exposed to the risk of being definitively excluded from the labour market after bearing a child. We argue that the prospect of losing one's job and/or it becoming more difficult to make it to the end of the month may work as a strongly dissuasive factor in discouraging childbearing, which explains the decision to postpone it even when the woman's participation in the labour market is limited, occasional and possibly related to low-paid and low-quality job positions.

The effect of being unemployed is similar to that of job precariousness (coefficients and marginal effects are not statically different). Being inactive, i.e. out of the labour force, and self-employed do not affect the probability of childbearing.

As for the role of wealth, our results show that the higher the index of wealth insecurity described in the previous Section, the lower the fertility intentions: a 1 percentage point increase in the index lowers planned fertility by 21 percentage points for mothers and by 18 percentage points for childless women (from 0.25). Again marginal effects are not statistically different. This result suggests that household wealth supports childbearing intentions.

As expected, low levels of household income also negatively affect the intention to have (more) children both for mothers and non-mothers. This result may be consistent with the claims of the early literature analysing the effect of wages on childbearing decisions. For example, Willis (1973) and Butz and Ward (1979)found a positive effect of income on men and a negative effect on females. In Italy, the main contribution to household income is still generally made by men, while women are primarily responsible for non-market services for children and older individuals. In other words, the so-called "male-breadwinner/female care-giver family model" seems to be still prevalent in the Italian setting (Karamessini 2008).According to the *Time Use Survey* carried out by the Italian National Institute of Statistics (Istat), on average, women devoted about 76% of their

[23]It is worth noting that, as a consequence of a process of decentralization of social policies started in the 90s (the so-called "devolution"), there are relevant differences in public welfare systems across Italian regions. See for example Ferrera (2005), Calamai (2009), Masseria and Giannoni (2010), Fiorillo and Sabatini (2011).

time to domestic work in 2009,this proportion being 78% in 2002 and 85% in 1989. Considering both paid and unpaid work, Italian women work on average 75 minutes per day more than men (Burda et al. 2007).The time devoted to domestic activity is however higher than the European average. Data suggest that household income insecurity is strongly (and positively) dependent mainly on men's earnings. The negative effect of income insecurity is shown in column 3 of Table 5.

To check which of the three dimensions plays a major role in fertility decisions, in column 4 of Table 5 we report results of a model which jointly accounts for our measures of job deprivation, and household income and wealth insecurity. When these variables are included in a unique regression, some differences between childless women and mothers come into play. The negative role of women's job deprivation is confirmed for women without children, but not for mothers. Second, wealth insecurity affects childbearing decisions solely for women with no children, lowering the likelihood of planning a first child by 19 percentage points. In other words, the more a childless woman suffers from wealth insecurity, the higher the likelihood of postponing or even deciding not to have a first child. This result confirms the importance of the buffering effect possibly exerted by real and financial wealth. Third, and more importantly, the income effect acts only for mothers, reducing childbearing intentions by about 19 percentage points.

Household wealth can be considered as a cumulated variable resulting from real and financial investment decisions that a family planned over the life cycle, so that a low level of wealth makes the major change entailed by the transition to a first child less likely. On the other hand, household income can also reflect temporary shocks that impact on the transition to higher birth order, but do not necessarily affect the decision to become a mother for the first time.

In all the specifications employed in Table 5, women with no children are more willing to plan a first child. Consistent with findings from Goldstein et al. (2003), our results show that, despite Italy's lowest-low fertility levels, Italian women would be willing to have (more) children. As expected, marital status is positively related to childbearing, as the majority of Italian couples conceive a baby solely after marriage. Couples in which the man has a bachelor's degree (and above) are more likely to want (more) children. In addition to the better economic conditions probably related to higher levels of education (which are controlled for within the regressions), this finding may be explained as a consequence of the division of domestic labour, which is likely to be more equal in couples where men are better educated. The share of domestic work performed by formally employed women is a critical part of current cross-national explanations for low fertility (Miller Torr and Shorr 2004). According to McDonald (2000), the decline in fertility in high-income countries is the outcome of a conflict or inconsistency between high levels of gender equity

in education and the labour market, and low levels of gender equity in the family and family-oriented institutions.

As regards male occupational status, couples in which the man is unemployed show a lower probability of planning to have a child with respect to those where men are employed with open-ended contracts. Fertility intentions are significantly and positively correlated with men being self-employed. In our sample, self-employed men are mainly professionals and entrepreneurs. This result thus seems consistent with findings from previous literature highlighting the significant and positive effect of men's income on the family's childbearing intentions. When considering the three measures of instability all together, however, the variable is not statistically significant.

Male job instability seems not to affect the intention to have children. This finding may be viewed as a result of the institutional features of the Italian labour market and of the low levels of gender equity in the family. Precarious men are probably aware that childbearing will not hamper their career perspectives: for example, unlike their partners, they will not face any risk of being laid off or not having their contracts renewed, and neither will they have to fear the extra-burden connected to childcare and domestic work, which will be borne mostly by women (possibly with the support of the extended family).

As described in section 4, the 2004, 2006 and 2008 surveys allow multiple answers to the question about fertility intentions: "yes", "not now, we'll think about it later", "no, we do not want any (more) children", and "no, but we would have liked to have (more) children"[24]. In the previous analysis we grouped all "no" answers in one category (and we estimated a probit model). We now draw on a multinomial logit model to look at the effects of job deprivation, income and wealth insecurity on different responses, since they have different meanings: while "not now" implies a postponement of maternity, the other two negative answers represent a definitive choice and reflect previously formed preferences/choices.

Given the low number of couples answering "No, but we would have liked to have (more) children", we grouped this answer with "No, we do not want any (more) children". Results are reported in Table ---. The base category is "yes, we are planning to have children". As expected, female occupational status leads to a postponement of maternity but has no effect on other negative choices. In particular, having a temporary labour contract increases the probability of delaying childbearing by 16 percentage points (from 0.34)[25], and the effect is similar for unemployed women. Being a housewife increases the likelihood of a postponement by about 10 percentage points. Couples in which the male is unemployed are more likely to answer "not now", but less

[24]The response "No, we do not want children" in 2008 is recoded as "No, we do not want any (more) children".

[25]The effect of precariousness is the same for mothers and women without children, thus we do not include the interaction term.

likely to choose “no, we do not want children” or “no, but we would have liked to”. Wealth insecurity affects the postponement of having a first child (by 32 percentage points), and leads to a decision not to have other children (by 23 percentage points from 0.38). Childless women with high income insecurity are more likely to decide not to have a first child, but less likely to postpone the decision to have one.The choice to not have additional children (neither now, nor in the future) is significantly and positively influenced by household income insecurity.

6.1 Robustness checks

The analysis of the association between female occupational status, and in particular the status of being precarious, and fertility may be driven by unobserved factors. Women with a precarious job are not a random sample of the population and compared to other women they may have dissimilar observed and unobserved characteristics, such as preferences for family size and differences in fecundity. Moreover, there may be a problem of reverse causality: women who are more family oriented may choose stable, but less motivating, jobs. If we neglect to control for these factors, the estimates may be biased. In order to assess the relevance of endogeneity issues, we perform a regression-based test to check whether women’s employment instability is endogenous. Drawing on the results from the multinomial logit for female occupational status performed in Section 4 (see Table 5), we use the education cohort as an instrument for female job insecurity. In particular, we construct a dummy indicating whether the woman left education in the periods 1981-85, 1995-2008. Since an instrumental variables estimator for probit models with endogenous regressors is not consistent (Dagenais 1999; Lucchetti 2002; Wilde 2008), we prefer to estimate IV in the Linear Probability Model. Results are reported in Table 6. The test fails to reject absence of endogeneity (the *t* test on the predicted residuals from the first stage is t=0.17, P>|t|=0.869), hence we use the probit model (2) to estimate the effect of female employment instability on childbearing intentions.

[Insert Table 6 about here]

Another issue to be addressed is the endogeneity of household income (and hence income insecurity). We use the occupational status of the father of the male as an instrument for household income (the share of the male’s income on household income is on average higher than the female’s). Family background has been identified by the literature on intergenerational mobility as a key determinant of the economic success of individuals. The elasticity of the income of male offspring with respect to their parents’ income is generally positive. The probability of male

offspring achieving decent economic conditions has been shown to be strongly affected by the parents' level of income and wealth (for a survey see Corak 2006; for Europe and Italy see for example Franzini and Raitano, 2010; Giuliano, 2008; Brunetti and Fiaschi, 2010).

We perform a regression based test to check the endogeneity of household income insecurity (see Table 7). The occupational status of the father of the male[26] (whether he was a manager, a member of a profession or an employer) is found to be strongly and negatively correlated with household income insecurity (t=-3.33). Since the coefficient on the first stage predicted residuals is not statistically different from zero, the test supports the assumption that income insecurity is not endogenous.

[Insert Table 7 about here]

We tested the endogeneity of female job insecurity and household income insecurity separately. We can also test for endogeneity of multiple explanatory variables. For each suspected endogenous variable, we obtain the reduced form residuals and we then test for the joint significance of these residuals in the structural equation (Wooldridge 2003). The F test indicates that both suspected explanatory variables are exogenous (F(2,1724)=0.01-, Prob>F=0.994-).

7. Conclusions

Over the last two decades more and more Italian women have entered the labour force, as a consequence of their major participation in education. At the same time the average number of children per woman has been fluctuating around 1.4 since the early nineties. This paper offers an explanation for the drop in fertility mainly related to the fact that the labour market reforms implemented in the mid nineties introduced new forms of temporary labour contracts. The concept of flexibility was at the basis of these contracts, reserved to young individuals and females. They were also characterized by low levels of maternal and sick leave protection, clearly penalizing women and discouraging them from having children.

In this paper we construct three indicators of "deprivation" which, in our view, may generate feelings of anxiety and economic insecurity in couples facing childbearing decisions. We show that job instability in women negatively affects the propensity to have (more) children and leads to a postponement of childbirth, which has been identified by the literature as one of the main factors in the decrease in fertility rates. The effect is not statistically significant for men, suggesting the persistence of the breadwinner model in the Italian setting with males being primarily responsible

[26]The occupational status of the parents refer to the time at which parents were the age of the interviewee.

for the household budget. Wealth insecurity undermines the transition from zero to one child: wealth is in fact a variable resulting from investments planned and fulfilled over the life cycle. Low levels of wealth discourage the decision to have a first child, which is likely to have a major impact on a family's economic conditions. On the other hand, uncertainty about income, which is affected by temporary shocks, is shown to matter solely to mothers. It does not discourage the decision to have a first child, but it seems to significantly and negatively affect successive pregnancies.

Our results suggest that policies aimed at increasing fertility levels should account for – and try to reduce - insecurity about women's future employment and the household income and wealth. More specifically, public actions aimed at raising fertility should take into account appropriate labour market policies to tackle the rising incidence of precariousness in women.

Table 1. Answers to the question: "Do you plan to have (more) children in the future?"

Female's age	Yes	No	Don't know	Tot
22 or less	49.20%	10.54%	40.28%	100%
23-28	63.50%	20.42%	16.08%	100%
29-33	33.88%	36.12%	30.00%	100%
34-38	13.74%	55.46%	30.80%	100%
39-43	3.99%	80.44%	15.58%	100%
44 or more	0.00%	93.55%	6.45%	100%
No. of observations				1044

Source: Our calculation from the SHIW, 2002

Note: Sample weights included

Table 2. Answers to the question: "do you plan to have (more) children in the future?

Female's age	Yes	Not now, we'll think about it later	No, we don't want any (more) children	No, but we would have liked to have (more) children	Tot
22 or less	50.56%	39.03%	10.41%	0.00%	100%
23-28	48.27%	41.10%	7.41%	3.22%	100%
29-33	33.52%	33.80%	28.25%	4.42%	100%
34-38	18.98%	20.59%	50.87%	9.56%	100%
39-43	5.33%	11.95%	68.76%	13.95%	100%
44 or more	1.47%	4.65%	79.03%	14.85%	100%
No. of observations					4019

Source: Our calculation from the SHIW, 2004, 2006, 2008

Note: sample weights included. Response "No, we do not want children" in 2008 is recoded as "No, we do not want any (more) children"

Table 3. Descriptive statistics

	Obs.	Mean	Std. Dev.	Min	Max
Plan to have (more) children	2551	0.28	0.45	0	1
Married	2551	0.96	0.20	0	1
Number of children	2551	1.14	1.00	0	6
Female's age	2551	32.94	4.06	16	38
Male's age	2551	36.88	5.27	18	74
Male: none, elementary and middle school education	2551	0.50	0.50	0	1
Male: high school (diploma)	2551	0.40	0.49	0	1
Male: bachelor's degree and beyond	2551	0.10	0.30	0	1
Female: none, elementary and middle school education	2551	0.43	0.50	0	1
Female: high school (diploma)	2551	0.44	0.50	0	1
Female: bachelor's degree and beyond	2551	0.12	0.33	0	1
Male: inactive	2551	0.00	0.04	0	1
Male: unemployed	2551	0.03	0.18	0	1
Male: employed with stable job	2551	0.71	0.45	0	1
Male: precarious	2551	0.06	0.24	0	1
Male: self-employed	2551	0.19	0.39	0	1
Female: inactive	2551	0.39	0.49	0	1
Female: unemployed	2551	0.06	0.25	0	1
Female: employed with stable job	2551	0.40	0.49	0	1
Female: precarious	2551	0.07	0.26	0	1
Female: self-employed	2551	0.07	0.26	0	1
Wealth insecurity	2551	0.48	0.29	0	1
Income insecurity	2551	0.47	0.29	0	1
North	2551	0.48	0.50	0	1
Center	2551	0.17	0.37	0	1
South and Isles	2551	0.35	0.48	0	1
Year of the survey: 2002	2551	0.18	0.39	0	1
Year of the survey: 2004	2551	0.36	0.48	0	1
Year of the survey: 2006	2551	0.35	0.48	0	1
Year of the survey: 2008	2551	0.11	0.32	0	1

Source: Our calculation from the SHIW, 2002-04-06-08.
Note: Sample weights included.

Table 5. Multinomial logit for the female occupational condition

	Inactive	Unemployed	Insecure Employed	Self-employed
High school (diploma)	-1.372***	-0.821***	-0.743***	-0.664**
	(0.172)	(0.291)	(0.285)	(0.263)
Bachelor's degree and beyond*type of degree1	-2.524***	-1.964***	-1.413*	0.896*
	(0.617)	(0.716)	(0.781)	(0.529)
Bachelor's degree and beyond*type of degree2	-2.451***	-0.526	0.0281	0.0981
	(0.389)	(0.560)	(0.451)	(0.541)
Father's high occupation	0.410	0.680	0.652*	1.010***
	(0.267)	(0.428)	(0.363)	(0.330)
Mother's med/high education	0.121	-0.608	0.0271	-0.705**
	(0.251)	(0.484)	(0.378)	(0.332)
North	-0.995**	-2.414***	-0.716	-0.515
	(0.433)	(0.594)	(0.575)	(0.837)
Center	-0.650*	-1.649***	-0.628	-0.195
	(0.389)	(0.558)	(0.523)	(0.724)
Regional rate of precariousness	7.226**	18.52***	23.23***	11.09**
	(3.582)	(5.137)	(5.232)	(5.303)
Regionale female unemp.rate	0.0790**	-0.0228	0.00880	0.0396
	(0.0316)	(0.0457)	(0.0459)	(0.0626)
End of education: 1981-85	-0.0863	-0.264	0.854**	-0.00250
	(0.227)	(0.402)	(0.374)	(0.349)
End of education: 1986-90	-0.0972	-0.748**	0.191	-0.761**
	(0.210)	(0.370)	(0.330)	(0.347)
End of education: 1995-2008	0.430*	0.913***	0.804**	-0.603
	(0.247)	(0.339)	(0.345)	(0.409)
Constant	-0.952	-3.469**	-6.100***	-3.351**
	(0.948)	(1.360)	(1.344)	(1.406)
Observations	2142			
Wald chi2(48)	403.31			
Prob>chi2	0.000			
Pseudo R2	0.1496			

Source: Our calculation from the SHIW, 2002-04-06-08.
Note: Base category: secure employment. Type of degree 1 includes: medicine, engineering, economics. Robust standard errors in brackets. Sample weights included. Family background variables and type of degree have missing values and this reduces the sample to 2142 couples.

*** p<0.01, ** p<0.05, * p<0.1

Table 4. The effect of job deprivation on fertility intentions

	(1)	(2)	(3)	(4)
No children	0.307***	0.308***	0.221***	0.275***
	(0.0335)	(0.0543)	(0.0511)	(0.0578)
Female: inactive	-0.0488			-0.00846
	(0.0309)			(0.0347)
Female: unemployed	-0.101**			-0.0653
	(0.0431)			(0.0516)
Female: precarious*no children	-0.149***			-0.129***
	(0.0415)			(0.0473)
Female: precarious*children	-0.0986**			-0.0750
	(0.0492)			(0.0541)
Female: self-employed	0.00158			-0.00405
	(0.0447)			(0.0437)
Male: unemployed	-0.119**			-0.0929*
	(0.0487)			(0.0557)
Male: precarious	-0.0232			-0.00660
	(0.0434)			(0.0457)
Male: self-employed	0.0671**			0.0348
	(0.0336)			(0.0349)
Wealth insecurity* no children		-0.212***		-0.190**
		(0.0707)		(0.0823)
Wealth insecurity* children		-0.182***		-0.0698
		(0.0607)		(0.0719)
Income insecurity*no children			-0.170**	-0.0130
			(0.0835)	(0.104)
Income insecurity*children			-0.268***	-0.186**
			(0.0671)	(0.0845)
Married	0.115***	0.0961**	0.105***	0.0949**
	(0.0386)	(0.0423)	(0.0409)	(0.0417)
Male: none, elementary and middle school education	-0.192***	-0.179***	-0.171***	-0.167***
	(0.0491)	(0.0508)	(0.0497)	(0.0511)
Male: high school (diploma)	-0.125***	-0.119***	-0.119***	-0.112**
	(0.0425)	(0.0441)	(0.0427)	(0.0439)
Male inactive	yes	yes	yes	yes
Female's education	yes	yes	yes	yes
Female's age	yes	yes	yes	yes
Female's age sq	yes	yes	yes	yes
Geographical dummies	yes	yes	yes	yes
Year dummies	yes	yes	yes	yes
Obs			2151	
Pseudo R2	0.17	0.17	0.17	0.18

Source: Our calculation from the SHIW, 2002-04-06-08.
Note: Marginal effects reported. Robust standard errors clustered at the household level in brackets. Sample weights included.
*** p<0.01, ** p<0.05, * p<0.1

Table 6. Multinomial logit for fertility intentions

	Not now, we'll think about it later	No (we do not want or we would have liked to)
No children	0.0692	-0.313***
	(0.0679)	(0.0727)
Female: inactive	0.0955**	-0.0627
	(0.0457)	(0.0479)
Female: unemployed	0.166**	-0.0892
	(0.0689)	(0.0617)
Female: precarious	0.160**	-0.0326
	(0.0622)	(0.0662)
Female: self-employed	0.00371	-0.0136
	(0.0624)	(0.0752)
Male: unemployed	0.299***	-0.204***
	(0.0847)	(0.0549)
Male: precarious	-0.00283	-0.0325
	(0.0615)	(0.0685)
Male: self-employed	0.0123	-0.0159
	(0.0423)	(0.0454)
Wealth insecurity* no children	0.320***	-0.202
	(0.121)	(0.142)
Wealth insecurity* children	-0.0489	0.229**
	(0.100)	(0.0949)
Income insecurity*no children	-0.400***	0.438***
	(0.139)	(0.170)
Income insecurity*children	-0.116	0.356***
	(0.113)	(0.115)
Marital status	yes	yes
Male's education	yes	yes
Female's education	yes	yes
Female's age	yes	yes
Female's age sq	yes	yes
Geographical dummies	yes	yes
Year dummies	yes	yes
Obs	2085	
Wald chi2(46)	309	
Prob>chi2	0.000	
Pseudo R2	0.20	

Source: Our calculation from the SHIW, 2004-06-08.

Note: Base category: yes. Responses "No, we do not want any (more) children" and "No, but we would have liked to have (more) children" are grouped in one category. Marginal effects reported. Robust standard errors clustered at the household level in brackets. Sample weights included.

*** p<0.01, ** p<0.05, * p<0.1

Table 7. Testing for endogeneity

Suspected explanatory variable	Female job insecurity	Household income insecurity
First stage		
education cohorts ('81-'85; '95-'08)	0.038	
	(0.014)**	
male's father high occupation		-0.082
		(0.024)***
Second stage (fertility intentions as dep.var.)		
predicted residuals	0.102	-0.042
	(0.619)	(0.543)
F-test (multiple endogenous variables)		
F(2,1724)	0.01	
Prob>F	0.994	
Observations	2551	2170

Source: Our calculation from the SHIW, 2002-04-06-08.
Note: Linear Probability Model. All exogenous variables listed in Table -- and sample weights included. The first stage is the reduced form equation with the suspected endogenous variable as dependent variable. In the second stage, fertility intention is the dependent variable and predicted residuals, suspected endogenous variables and all exogenous variables are included as regressors. Robust standard errors clustered at the household level in brackets. F test is the test for joint significance of the predicted residuals in the structural equation. Family background variables have missing values and this reduces the sample to 2170 couples in the equation for income insecurity.
*** p<0.01, ** p<0.05, * p<0.1

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